

AMENDMENT UNDER 37 C.F.R. § 1.111
U. S. Application No. 09/835,319

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a first lower reflector formed of two alternately deposited semiconductor material layers having a same type of impurity, but different refractive indices, the first lower reflector disposed on the upper surface of the substrate;

a first active layer disposed on the first lower reflector; and

a first upper reflector formed of two deposited semiconductor material layers having different refractive indices and an opposite type of impurity to that of the first lower reflector, the first upper reflector disposed on the first active layer;

a second surface emitting laser which emits light having a second wavelength, directly formed on a portion of an upper surface of the substrate neighboring the first surface emitting laser and including;

a second lower reflector formed of two alternately deposited semiconductor material layers having different refractive indices and a same type of impurity, the second lower reflector disposed on the upper surface of the substrate;

a second active layer disposed on the second lower reflector; and

a second upper reflector formed of two deposited semiconductor material layers having different refractive indices and an opposite type of impurity to that of the second lower reflector, the second upper reflector disposed on the second active layer;

a lower electrode layer disposed on a lower surface of the substrate;

a first upper electrode formed on the first upper reflector, which electric power is applied to; and

a second upper electrode formed on the second upper reflector, which electric power is applied to.

02 sub B7 6. (Amended) A multi-wavelength surface emitting laser for emitting light having a first wavelength and light having a second wavelength, the laser comprising:

a substrate;

a first surface emitting laser which emits light having a first wavelength formed on a first portion of the substrate; and

a second surface emitting laser which emits light having a second wavelength formed on a second portion of the substrate,

wherein the first surface emitting laser includes,

a first lower reflector disposed on the substrate;

a first active layer disposed on the first lower reflector; and

a first upper reflector disposed on the first active layer, and wherein the second surface emitting laser includes,

a second lower reflector disposed on the substrate;

a second active layer disposed on the second lower reflector; and

a second upper reflector disposed on the second active layer.

03 8. (Amended) The laser as claimed in claim 6, wherein the first lower reflector is formed of two alternately deposited semiconductor material layers having a same type of impurity, but different refractive indices, and the first upper reflector is formed of two deposited semiconductor material layers having different refractive indices and an opposite type of impurity to that of the first lower reflector, and

wherein the second surface emitting laser is formed of two alternately deposited semiconductor material layers having different refractive indices and a same type of impurity,

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and the second upper reflector is formed of two deposited semiconductor material layers having different refractive indices and an opposite type of impurity to that of the second lower reflector.

9. (Amended) The laser as claimed in claim 6, further including,
a lower electrode disposed on a lower surface of the substrate;
a first upper electrode formed on the first upper reflector, which electric power is applied to; and
a second upper electrode formed on the second upper reflector, which electric power is applied to.

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16. (Amended) A multi-wavelength surface emitting laser for emitting light having a first wavelength and light having a second wavelength, the laser comprising:
a substrate;
first laser emitting means for emitting a laser having a first wavelength, the first laser emitting means disposed on the substrate; and
second laser emitting means for emitting a laser having a second wavelength, the second laser emitting means disposed on the substrate,
wherein the first laser emitting means includes,
first laser reflecting means disposed on the substrate; and
first energy transition means for generating a laser beam, the first energy transition means disposed in the first reflecting means, and
wherein the second laser emitting means includes,
second laser reflecting means disposed on the substrate; and

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second energy transition means for generating a laser beam, the second energy transition means disposed in the second reflecting means.

18. (Amended) The laser as claimed in claim 16, further including:

lower electrode means disposed on a lower surface of the substrate;

first upper electrode means for accepting electric power disposed on an upper surface of the first laser reflecting means; and

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second upper electrode means for accepting electric power disposed on an upper surface of the second laser reflecting means.
